

3.2 Eelgrass, Substrate and Kelp Habitat Delineations

Habitat coverages were delineated using a combination of side scan sonar, underwater video and visual observations from the surface. The side scan sonar was extremely effective in delineating eelgrass habitat. This was supported by video as a means of 'ground-truthing', and was especially useful for interfaces between sparse, moderate, and dense coverages. Examples of various eelgrass coverages are shown in Figures 7 and 8 (dense coverage), Figures 9 and 10 (moderate coverage), and Figures 11 and 12 (sparse coverage).

The side scan data was supported to a greater extent by video observations for determination of substrate type. Definitive interfaces between substrate types were readily detectable in side scan data (Figure 13), however subtle changes between substrate type were more easily seen in the video. Features such as sand waves, approximately one to two meters in height, were also noted at the north end of Area E, just south of the pier using side scan sonar (Figure 14). Other targets, such as docks and piers (Figure 15 and 16), were identified readily with side scan sonar; wood debris (Figure 16) was also identified as a target and confirmed with underwater video.

3.2.1 Vegetation Coverages

Vegetation cover (eelgrass and kelp) for the entire study area is shown on Figure 17(a) and (b). The basemaps for all coverages are 1994 and 1996 USGS orthoquads. Eelgrass was found in all study areas and kelp beds found in all areas except G, J, K, and L. Polygons were delineated based on sparse, moderate, or dense coverage, and kelp (*N. luetkeana*) based on its presence or absence. In certain areas where kelp beds were extensive (e.g., Area D near the Edmonds Underwater Park), documentation of kelp

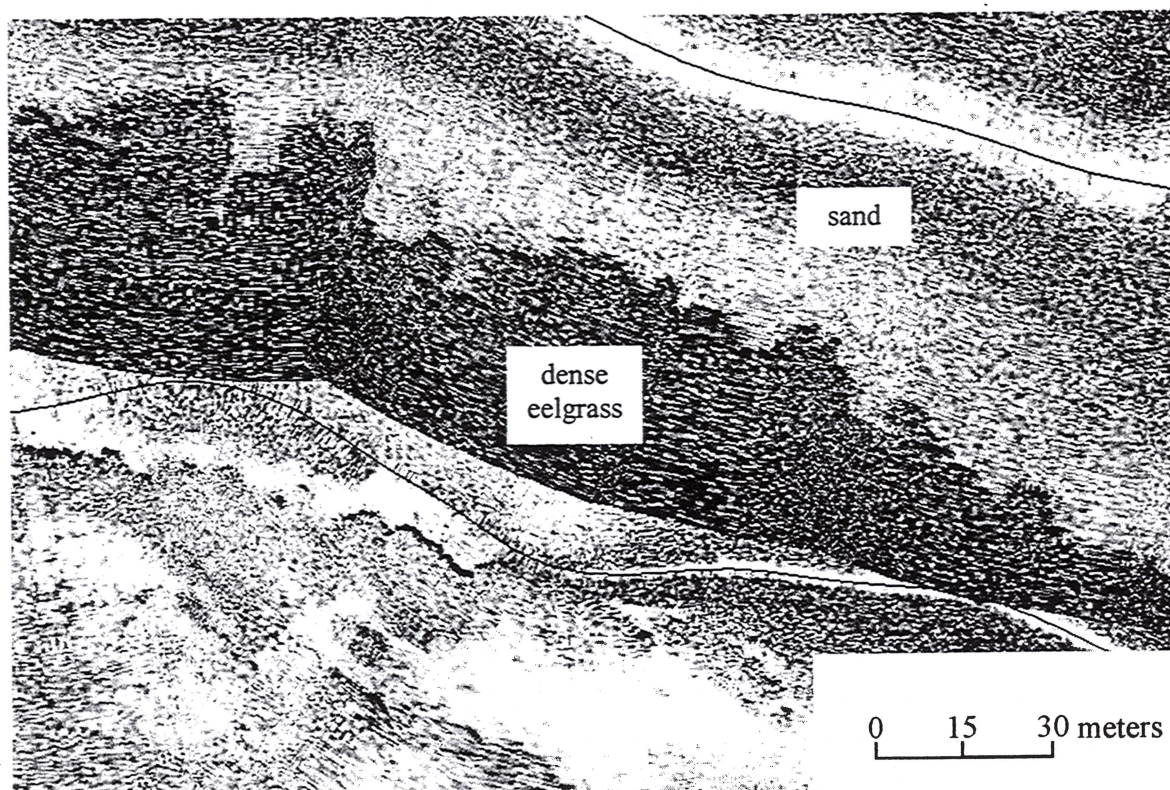


Figure 7. Example of dense eelgrass coverage in Area A.

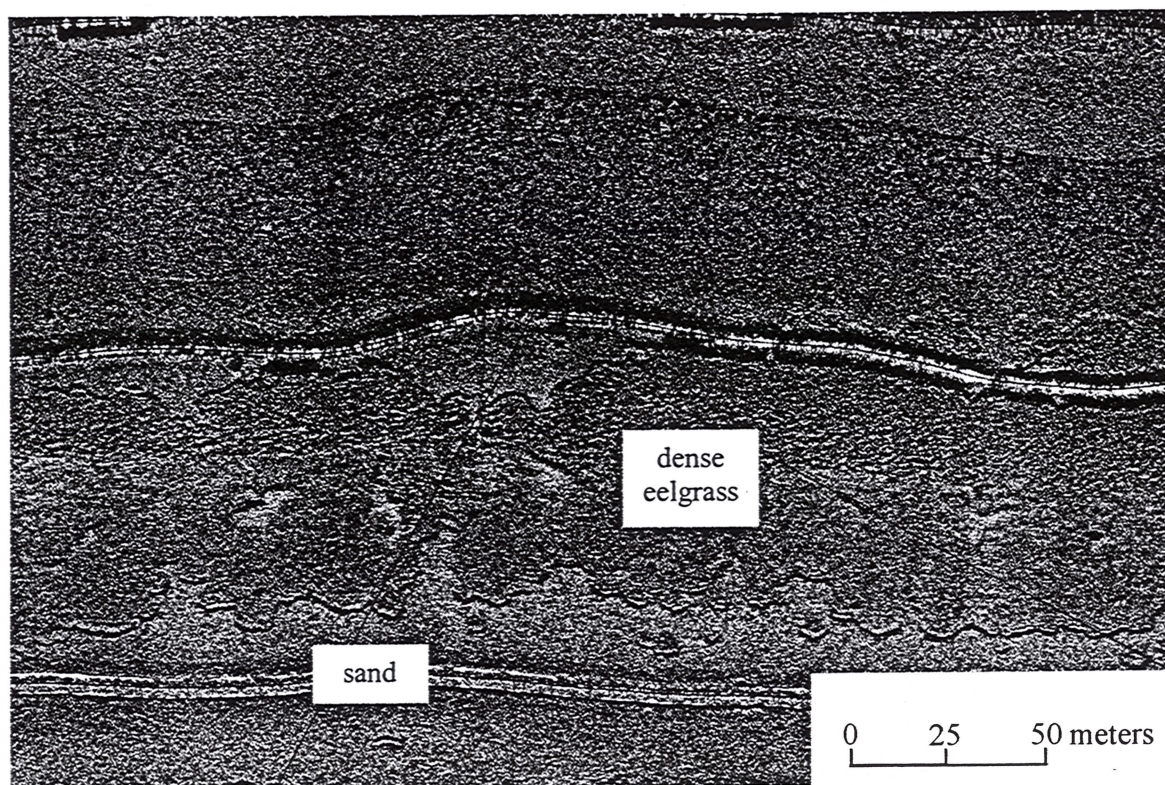


Figure 8. Example of dense eelgrass coverage in Area K.

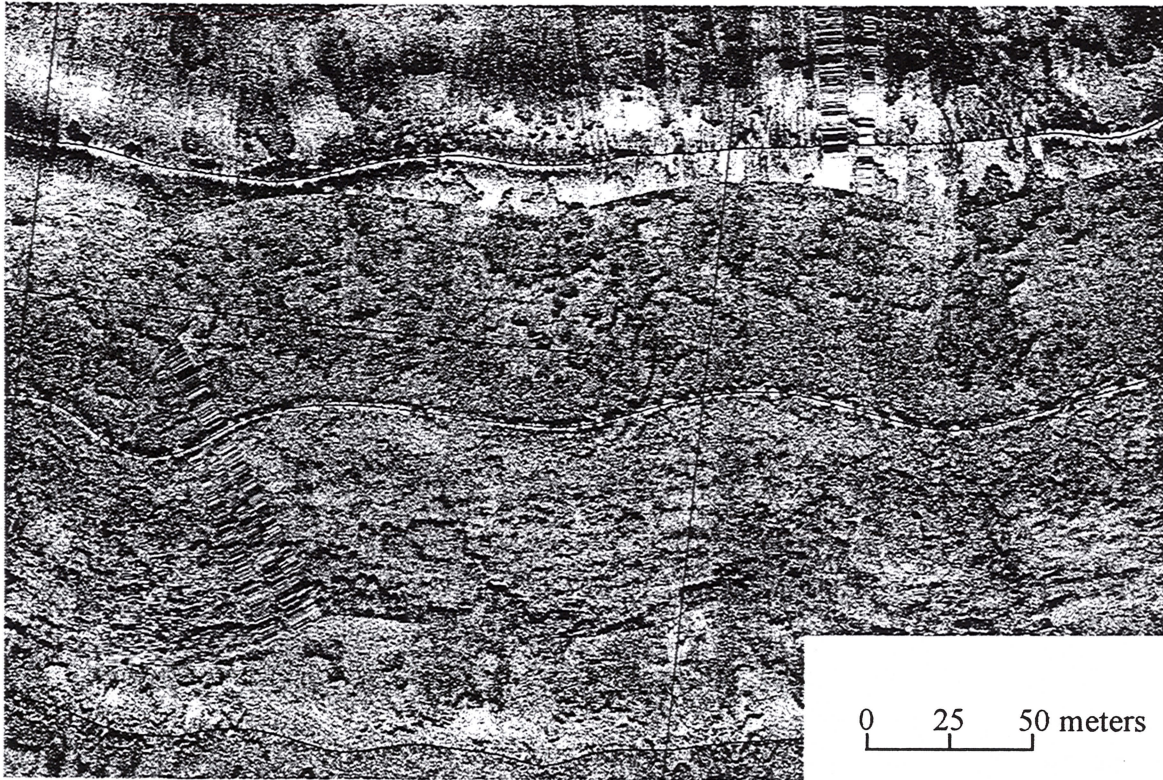


Figure 9. Example of moderate eelgrass coverage in Area E.

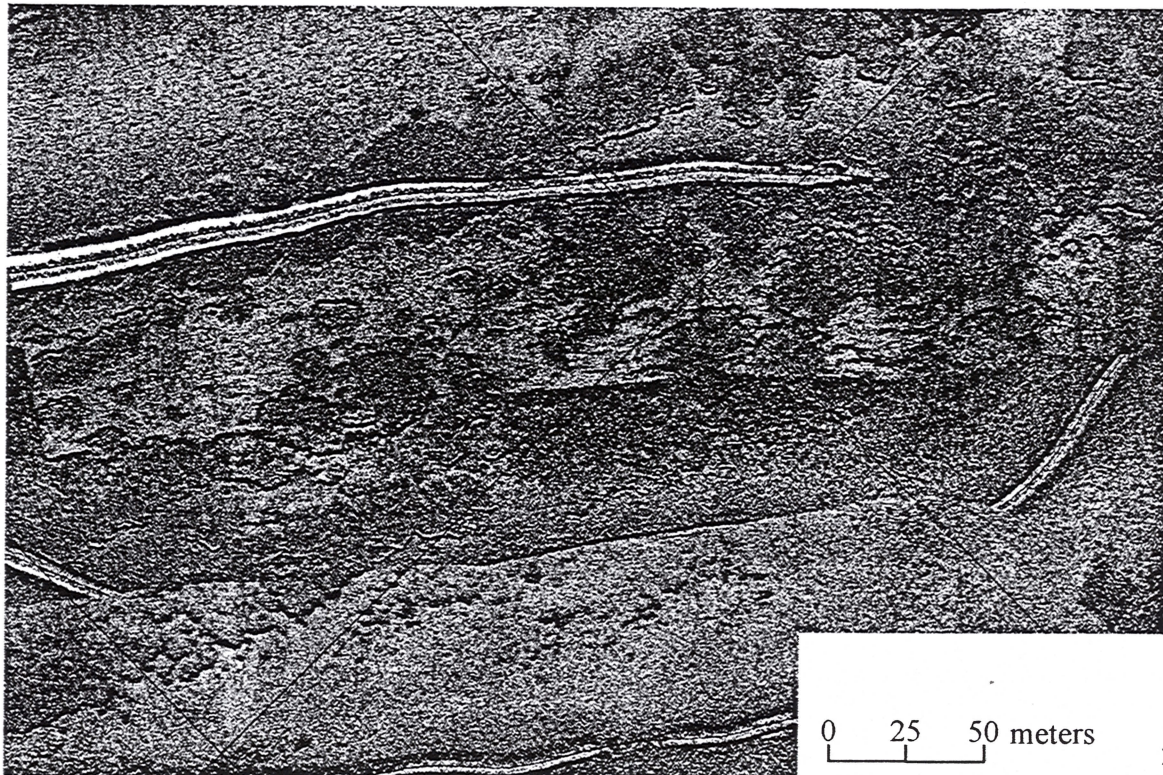


Figure 10. Example of moderate eelgrass coverage in Area K.

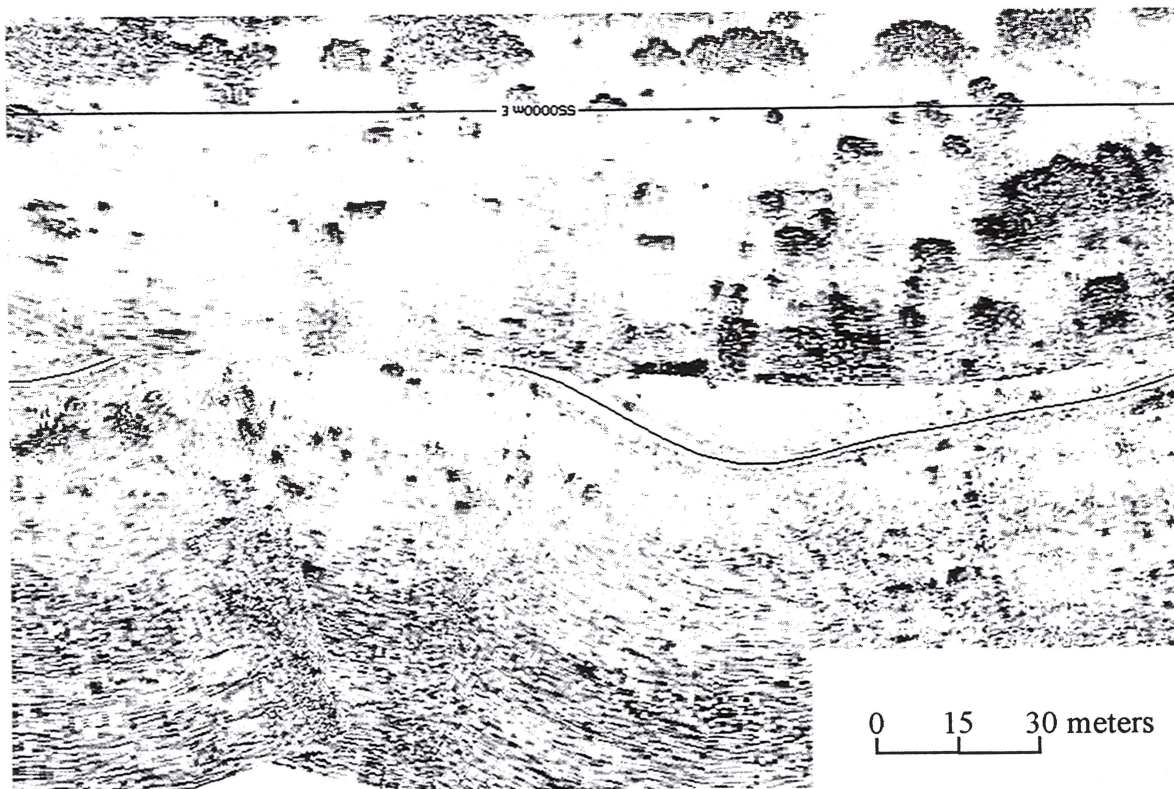


Figure 11. Example of sparse eelgrass coverage in Area A.

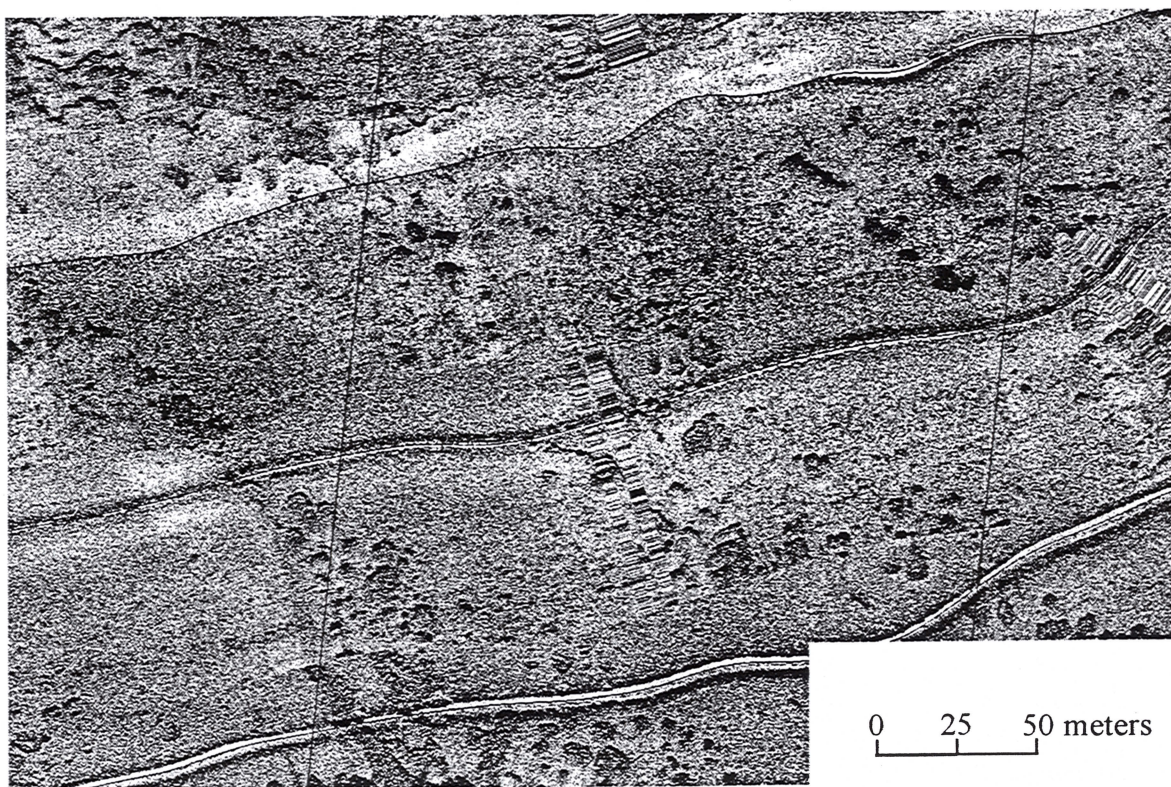


Figure 12. Example of sparse eelgrass coverage in Area E.

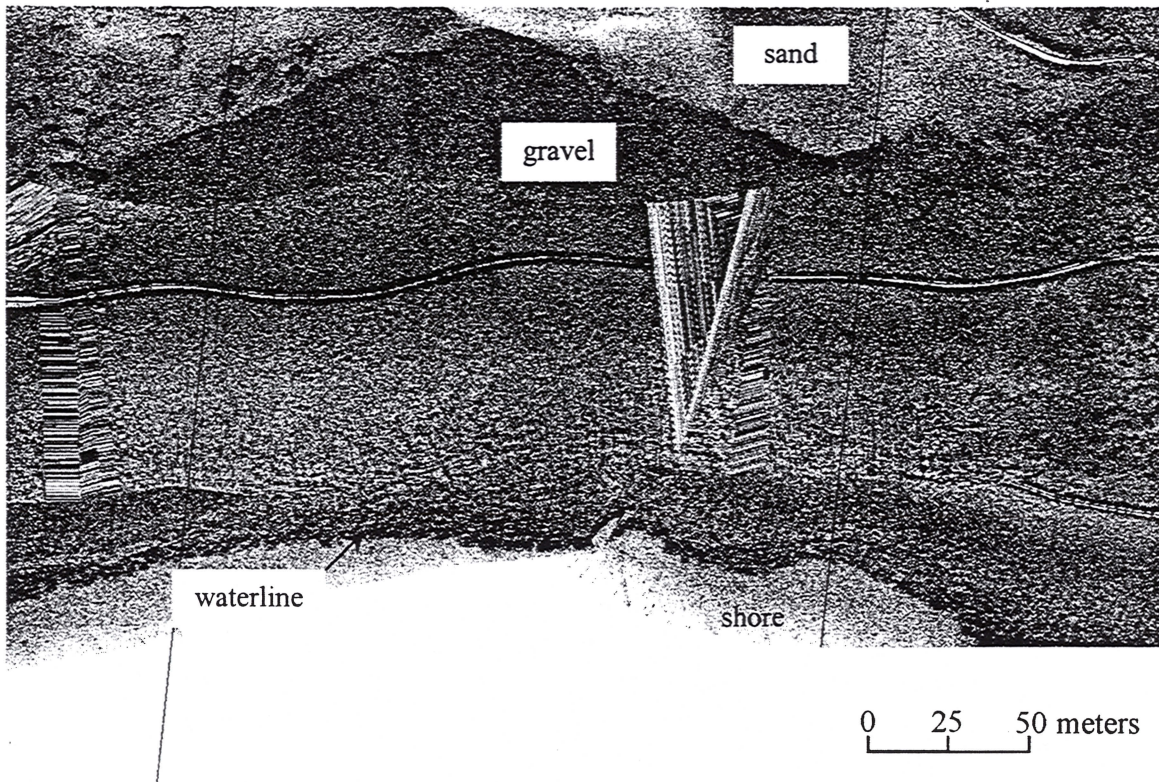


Figure 13. Example of the interface between sand and gravel, and the shoreline.

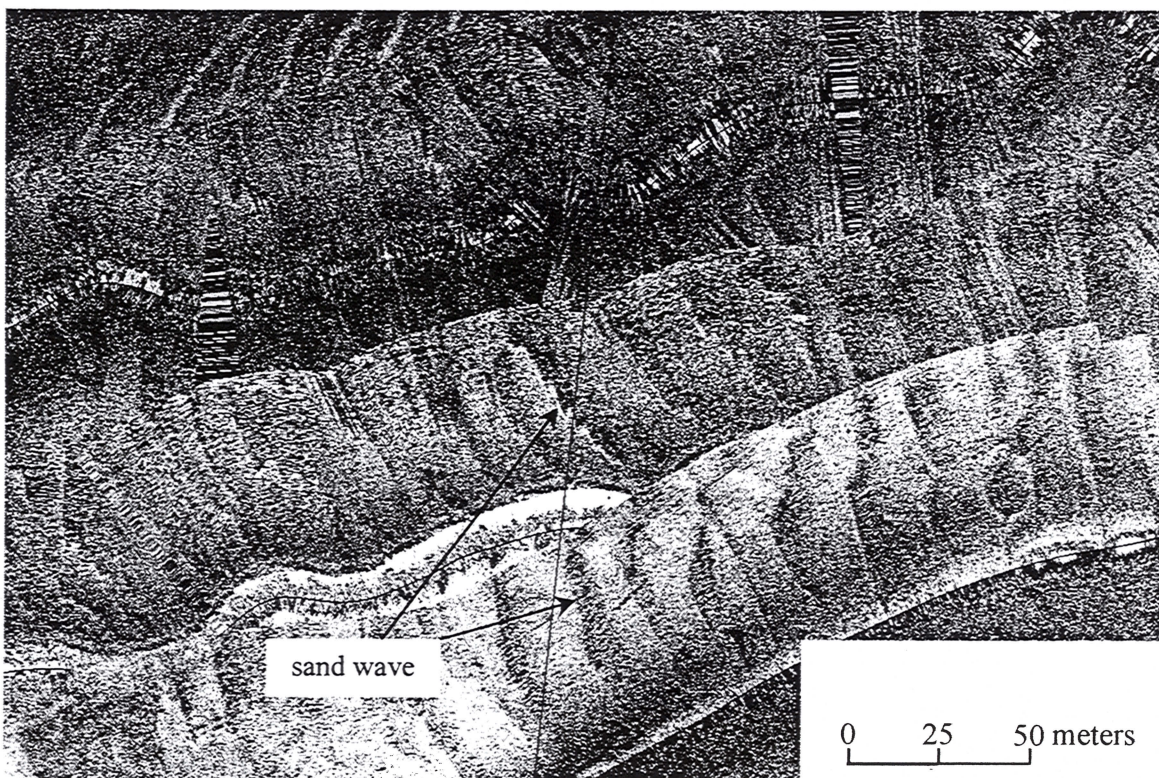


Figure 14. Example of sand waves near pier at north end of Area E.